WHAT IS CLAIMED IS:

1. A fusing-station roller for use in a fusing station of an electrostatographic machine, said fusing-station roller elastically deformable, said fusing-station roller comprising:

a core member, said core member rigid and having a cylindrical outer surface;

a resilient layer, said resilient layer formed on said core member;

wherein said resilient layer is a fluoropolymer material, said fluoropolymer material made from an uncured formulation by a curing;

wherein said uncured formulation includes a fluoro-thermoplastic polymer;

wherein said uncured formulation includes microsphere particles, said microsphere particles having flexible walls;

wherein said microsphere particles have a predetermined weight percentage in said uncured formulation; and

wherein in addition to said microsphere particles, said uncured formulation includes solid filler particles.

2. The fusing-station roller of Claim 1, wherein a type of solid filler particles includes strength-enhancing filler particles.

3. The fusing-station roller of Claim 2, wherein said strength-enhancing filler particles are members of a group including particles of silica, zirconium oxide, boron nitride, silicon carbide, carbon black, and tungsten carbide.

4. The fusing-station roller of Claim 2, wherein said strength-enhancing filler particles have a concentration in said uncured formulation in a range of approximately between 2.5% - 10% by weight.

5. The fusing-station roller of Claim 1, wherein a type of solid filler particles includes thermal-conductivity-enhancing filler particles.

6. The fusing-station roller of Claim 5, wherein said thermal-conductivity-enhancing filler particles are selected from a group including particles of aluminum oxide, iron oxide, copper oxide, calcium oxide, magnesium oxide, nickel oxide, tin oxide, zinc oxide, graphite, carbon black, and mixtures thereof.

7. The fusing-station roller of Claim 5, wherein said thermal-conductivity-enhancing filler particles have a concentration in said uncured formulation in a range of approximately between 10% - 40% by weight.

8. The fusing-station roller of Claim 5, wherein said thermal-conductivity-enhancing filler particles have a concentration in said uncured formulation in a range of approximately between 40% - 70% by weight.

9. The fusing-station roller of Claim 1, wherein said microsphere particles are hollow microballoons, said hollow microballoons having at least one distinguishable size.

10. The fusing-station roller of Claim 9, wherein said hollow microballoons have diameters of up to approximately 120 μm.

11. The fusing-station roller of Claim 1, wherein said microsphere particles are unexpanded microspheres, said unexpanded microspheres being expanded to microballoons during said curing, said curing being carried out at an elevated temperature.

12. The fusing-station roller of Claim 11, wherein said microballoons are hollow, flexible, and have at least one distinguishable size.

13. The fusing-station roller of Claim 1, wherein said predetermined microsphere concentration is in a range of approximately between 0.25% - 10% by weight in said uncured formulation.

14. The fusing-station roller of Claim 13, wherein said predetermined microsphere concentration is in a range of approximately between 0.5% - 4% by weight in said uncured formulation.

15. The fusing-station roller of Claim 1, wherein said curing is a thermal curing, said thermal curing carried out at an elevated temperature.

16. The fusing-station roller of Claim 15, wherein said elevated temperature is in a range of approximately between 150°C - 200°C.

17. The fusing-station roller of Claim 15, wherein said elevated temperature is in a range of approximately between 250°C - 300°C.

18. The fusing-station roller of Claim 1, wherein said curing of said uncured formulation is an electron-beam curing.

19. The fusing-station roller of Claim 1, wherein said flexible walls of said microsphere particles include a polymeric material, said polymeric material polymerized from monomers selected from the following group of monomers: acrylonitrile, methacrylonitrile, acrylate, methacrylate, vinylidene chloride, and combinations thereof.

20. The fusing-station roller of Claim 1, wherein said flexible walls of said microsphere particles include finely divided particles selected from a group including inorganic particles and organic polymeric particles.

21. The fusing-station roller of Claim 1, wherein a thickness of said resilient layer has an upper limit of approximately 0.1 inch.

22. The fusing-station roller of Claim 21, wherein a thickness of said resilient layer is in a range of approximately between 0.005 inch - 0.02 inch.

23. The fusing-station roller of Claim 1, wherein said fusing-station roller is a fuser roller, said fuser roller internally heated.

24. The fusing-station roller of Claim 23, wherein said thermal conductivity of said resilient layer is in a range of approximately between 0.08 BTU/hr/ft/°F - 0.7 BTU/hr/ft/°F.

25. The fusing-station roller of Claim 24, wherein said thermal conductivity of said resilient layer is in a range of approximately between 0.2 BTU/hr/ft/°F - 0.5 BTU/hr/ft/°F.

26. The fusing-station roller of Claim 1, wherein said fusing-station roller is a fuser roller, said fuser roller being externally heated.

27. The fusing-station roller of Claim 26, wherein said thermal conductivity of said resilient layer has an upper limit of approximately 0.4 BTU/hr/ft/°F.

28. The fusing-station roller of Claim 27, wherein said thermal conductivity of said resilient layer is in a range of approximately between 0.1 BTU/hr/ft/°F - 0.35 BTU/hr/ft/°F.

29. The fusing-station roller of Claim 1, wherein a Shore A durometer of said resilient layer is in a range of approximately between 50 - 80.

30. The fusing-station roller of Claim 29, wherein a Shore A durometer of said resilient layer is in a range of approximately between 60 - 70.

31. The fusing-station roller of Claim 1, wherein said fusing-station roller is a pressure roller.

32. The pressure roller of Claim 31, wherein a thermal conductivity of said resilient layer is in a range of approximately between 0.1 BTU/hr/ft/°F - 0.2 BTU/hr/ft/°F.

33. The fusing-station roller of Claim 1, wherein said fluoro-thermoplastic polymer comprises a copolymer, said copolymer made of monomers of vinylidene fluoride (CH_2CF_2), hexafluoropropylene ($CF_2CF(CF_3)$), and tetrafluoroethylene (CF_2CF_2), said copolymer having a composition of:

—$(CH_2CF_2)x$—, —$(CF_2CF(CF_3))y$—, and —$(CF_2CF_2)z$—,

wherein,

x is from 1 to 50 mole percent,

y is from 9 to 59 mole percent,

z is from 40 to 90 mole percent,

x + y + z equals 100 mole percent.

34. The fusing-station roller of Claim 1, wherein said solid filler particles have a mean diameter in a range of approximately between 0.1 μm – 100 μm.

35. The fusing-station roller of Claim 34, wherein said solid filler particles have a mean diameter in a range of approximately between 0.5 μm - 40 μm.

36. The fusing-station roller of Claim 1, wherein said fluoro-thermoplastic polymer in said uncured formulation is in a form of particles, said particles having diameters in a range of approximately between 0.01 mm - 1 mm.

37. The fusing-station roller of Claim 1, wherein:

a weight percent of fluorine in a formula weight of said fluoro-thermoplastic polymer has a lower limit of about 70%; and

a molecular weight of said fluoro-thermoplastic polymer is in a range of approximately between 50,000 - 800,000.

38. The fusing-station roller of Claim 37, wherein said molecular weight of said fluoro-thermoplastic polymer is in a range of approximately between 80,000 - 200,000.

39. For use in a fusing station of an electrostatographic machine, an elastically deformable fusing-station member, said elastically deformable fusing-station member comprising:

a substrate;

a resilient layer formed on said substrate;

wherein said resilient layer is a crosslinked fluoropolymer made from an uncured formulation by a curing;

wherein said uncured formulation includes a fluoro-thermoplastic polymer;

wherein a weight percent of fluorine in a formula weight of said fluoro-thermoplastic polymer has a lower limit of about 70%;

wherein said uncured formulation includes microspheres, said microspheres having flexible walls;

wherein a form of said microspheres includes at least one of an expanded microballoon form and an unexpanded microsphere form;

wherein said microspheres have a predetermined microsphere concentration in said uncured formulation; and

wherein in addition to said microspheres, said uncured formulation includes solid filler particles.

40. A method of making a fusing-station member for use in a fusing station of an electrostatographic machine, said fusing-station member formed from a substrate and a resilient layer adhered to said substrate, said method comprising the steps of:

mixing of ingredients so as to produce an uncured formulation, said ingredients including: thermoplastic particles made of a copolymer of vinylidene fluoride, hexafluoropropylene, and tetrafluoroethylene, a curing catalyst, microsphere particles, strength-enhancing solid filler particles, and thermal-conductivity-enhancing solid filler particles, wherein said microsphere particles have a concentration in said uncured formulation in a range of approximately between 0.25% - 10% by weight;

forming on said substrate a curable layer of said uncured formulation, said curable layer formed with a substantially uniform thickness on said substrate; and

curing of said curable layer to form a cured layer on said substrate.

41. The method of Claim 40, wherein:

said substrate is a core member, said core member rigid and cylindrical; and

said forming is carried out by extruding said uncured formulation around said core member, said uncured formulation at a temperature in a range of approximately between 80°C - 200°C during said extruding and said core member at any suitable temperature during said extruding.

42. The method of Claim 41, wherein said extruding of said uncured formulation is carried out at a temperature in a range of approximately between 160°C - 180°C.

43. The method of Claim 40, wherein:

said curing of said curable layer is a thermal curing, said thermal curing at an elevated temperature, said elevated temperature in a range between approximately 150°C - 300°C; and

after said thermal curing, an additional step of cooling said cured layer on said substrate to room temperature.

44. The method of Claim 40, wherein said microsphere particles are unexpanded microspheres, said unexpanded microspheres expanded to microballoons during said thermal curing.

45. The method of Claim 40, wherein said microsphere particles in said uncured formulation are expanded microballoons.

46. The method of Claim 40, wherein said curing of said curable layer is an electron-beam curing.